ELEMENT 723: WATER EMERGENCY RESPONSE PLAN

01 INTRODUCTION

State Guide Plan Element 723, *Water Emergency Response Plan for the State of Rhode Island,* was approved by the State Planning Council on May 13, 1993. The task was carried out under legislative mandate and an Executive Order that charged an Advisory Committee with assisting the Division of Planning in preparing a state plan and recommending the necessary steps to better prepare the state for water emergencies.

The plan establishes a framework for response to water emergencies, and outlines the existing emergency response capacity of state, local, and federal entities**.** It responds to the need for a coordinated approach to provide adequate drinking water to citizens during a water crisis. The plan follows the organizational structure of the Incident Command System (ICS) which is widely used for emergency response activities, and structures response efforts relative to the threat to public health and safety.

The plan includes the following parts:

Part 723-1	Introduction
Part 723-2	The Local Role in Water Emergencies
Part 723-3	State and Federal Responsibilities
Part 723-4	Risk Elements and Response
Part 723-5	Communications
Part 723-6	Recommendations

A separate document developed along with this plan**,** entitled the *Emergency Resource Directory for Water Supply Management,* offers detailed information on whom to contact for services relating to the remediation of water crises. Contacts include all levels of government, utilities, equipment and suppliers, media, and volunteer services relating to water emergency response.

02 ISSUES AND STRATEGIES

The principal issues relate to the emergency response procedures that are discussed in Part 723-4 of the plan. The incidents that characterize the most probable emergency situations have been categorized into five major types. They were selected after considering the many causes and effects of disasters that could affect water systems. Listed below, each incident type is referenced to the section and page of the full plan where a detailed discussion, including flow charts, describes each level of disaster and response procedures.

Section 4-3 Hazardous Materials Releases Pages 4.6 - 4.22

Level I Hazardous substance release (leak, spill, or accident) that has no impact on drinking water resources and is capable of being remediated by local resources.

Level II Hazardous substance release that threatens a drinking water supply because of its location relative to drinking water watersheds or groundwater recharge areas.

Level III Hazardous substance release impacting a surface or groundwater supply and requiring the full mobilization of local resources and the Department of Environmental Management.

Level IV Hazardous substance release that impacts a surface or groundwater supply and is beyond local response capability as it presents a risk to public health.

Section 4-4 Contamination Pages 4.23 - 4.31

Level I Water samples exceed Department of Health drinking water standards; corrective actions taken by the water supplier to remedy the situation.

Level II Contamination results in an immediate health risk to the public. Response is within capability of the supplier under advisement of the Department of Health. Boiling water is not a recommended alternative at this level.

Level III Contamination results in an immediate and widespread health risk to a water system beyond the control of the water supplier or municipality. Water is non-potable, and state assistance is necessary to provide adequate and safe drinking water.

Section 4-5 Mechanical Failure Pages 4.32 - 4.36

Level I Equipment failure or failure of infrastructure to support water distribution, storage, or treatment; customer service is maintained and equipment repaired or replaced by the water supplier.

Level II Equipment failure or infrastructure failure that is beyond the response capability of the water supplier and municipality.

Section 4-6 Power Failure Pages 4.37 - 4.42

Level I Power failure affects a water supply system; the supplier can maintain adequate water supply with stand-by and emergency equipment or stored water.

Level II Prolonged power failure beyond the response capacity of the supplier and municipal resources to maintain normal treatment and/or transmission of water supply.

Section 4-7 Water Shortages Pages 4.43 - 4.47

Level I A shortage of water that is a sudden and unusual occurrence. The water supplier provides water from emergency sources as possible.

Level II A shortage of drinking water that is beyond the response capability of the water supplier; municipal assistance may be requested.

03 GOALS

The *Water Emergency Response Plan* is not designed for responding to every conceivable contingency, but it addresses the major potential risks to water supplies in Rhode Island. The goals of the plan are to assure:

- protection of public health, safety, and welfare;
- conservation of essential drinking water resources;
- the reasonable allocation of supply; and
- support of essential and high priority uses.

This plan serves as a guide in situations severe enough to constitute water supply emergencies, particularly for actions by the state when engaged in emergency water management. The plan identifies the point at which a crisis requires state involvement beyond the usual jurisdictional authority of the supplier or municipality, and recommends specific actions by state agencies in response to disasters. It addresses extraordinary circumstances when coordination is needed between municipalities, interagency services are required, or transportation of water is required beyond the scope or capability of the local supplier. Declarations of emergency may be adopted on a statewide basis, regionally, or locally, but in most cases, primary reliance is on emergency plans developed and implemented by water suppliers.

As such, the *Water Emergency Response Plan:*

- establishes parameters for involvement in water emergencies;
- identifies courses of action in the most probable types of water emergency; defines responsibility and determines levels where state action is appropriate;
- describes communication responsibilities and procedures among state agencies, water suppliers, and other entities so that public communication during emergency situations is accomplished in a timely and efficient manner; and
- defines common terminology used during water emergencies.

04 RECOMMENDATIONS

A. STATE POLICY RECOMMENDATIONS

1. Guidelines for Using Emergency Interconnections

Compliance with the following guidelines is recommended when authorizing emergency connections between public drinking water supplies. The use of these connections presumes an acute condition of short duration.

- A water emergency has been declared by the chief elected official of the affected community.

- Water restrictions will remain in effect during the time period the connection is being used.

- Suppliers have knowledge of the unique operating characteristics of their systems; therefore, the supplier should define how the system can be used.

- In the case of a connection between two systems with different hydraulic characteristics, an engineering evaluation must be performed and operating parameters defined prior to constructing or activating the connection.

- Rhode Island Department of Health has approval authority of temporary connections authorized for use because of health issues.

- The connection should have backflow prevention devices - the type of device dependent on the degree of hazard involved as determined by the system providing the water.

- The connection shall be metered.

- The system receiving the water shall compensate the system supplying it on a unit basis consistent with the supplier's current rate structure. The payment shall be guaranteed by the State of Rhode Island and assumes the state retains the right to recover funds by whatever means may be necessary.

- The system supplying the water shall be compensated for related costs of materials, labor, services, overhead, and other assistance furnished at its actual cost. This cost is to be paid by the system receiving the water and guaranteed by the State of Rhode Island. The state has right to recover funds by whatever means may be necessary.

(The above two items would require legislation.)

- The system supplying the water shall not suffer any adverse impacts on its distribution system or impair its ability to provide service to its customers.

2. Emergency Plans

The DOH should require all community public water systems and non-transient non-community systems to prepare abbreviated water supply management plans where such plans are not already available for implementation. This applies to all water systems including those already under mandate of the DEM water supply management regulations, and state agencies that supply water. Establishing a management strategy for distribution and delivery, priority uses, and restrictions to conserve the water supply for the greatest public benefit before an emergency occurs expedites remedial action during an emergency.

The Advisory Committee could assist in developing the criteria for what is required in the abbreviated management plans by providing model standard operating procedures (SOP) for water systems. A draft SOP is included in Appendix F. It includes a partial listing of locations where bottled water can be purchased 24 hours a day. The abbreviated plans should be requested by the DOH, filed with DOH and the RIEMA (and maintained by the system itself) and updated along with scheduled sanitary surveys of the DOH.

The DEM legislative mandate for water supply management plans should be expanded to include a few more sizeable systems that are at risk but do not utilize more than 50 MGY, the cutoff for falling under DEM jurisdiction.

3. Drought Management Plan

A separate plan should be developed to address preparedness and policy regarding long-term drought issues for the state of Rhode Island.

4. State Emergency Response Plans

State agencies who are actively involved in water emergency management should review in-house procedures and prepare written and detailed operational plans for emergency response similar to the emergency preparedness plans of the Public Utilities Commission (PUC). The plan should address personnel roles and responsibilities, lines of authority and communications, training, and emergency alert and response procedures. This item is particularly intended for the Departments of Environmental Management, Health, and Transportation.

5. Stand-by Contracts

State-managed water systems (Zarnbarano Memorial Hospital, the University of Rhode Island, the Rhode Island Port Authority at Quonset Point/Davisville, and the Howard Complex) should maintain stand-by contracts with adjacent water systems for emergency water and for the purchase of bottled potable water at competitive prices when needed in large volume. The state Division of Purchasing should be directed to negotiate annual master price agreements for bottled water as a supplemental source of water for state-owned systems requiring potable water for emergency situations. This should prevent the time-consuming bidding process from being an issue. The water could also serve as an emergency supply for other water systems needing to purchase bulk bottled water in emergency situations.

6. Small Water System Failures

There is no blanket provision for state assistance to small and very small systems. Most of their crisis situations can be related to plumbing problems or mechanical failures and may result from mismanagement, like other chronic system malfunctions. These situations are not considered emergencies and are not addressed under the provisions of the state Water Emergency Response Guide Plan element.

Small water systems include water systems with at least 15 service connections and 25 customers and are generally privately owned; failures to these systems are not typically considered state emergencies. Limits of state assistance should include resolution of concerns related to public health by offering expertise and resources. However, further assistance should be forthcoming only when the municipality has followed proper procedure for declaration of an emergency, which assures state assistance only for items beyond the capacity of the muncipality. The state is not obligated to provide bottled water for any small water system, whether public or private, except under the express conditions of existing state programs managed by the DEM and the DOH.

B. MUNICIPAL POLICY RECOMMENDATIONS

1. Coordination with Local Comprehensive Plans

In its required local comprehensive plan, each community must address future land use, zoning, and growth projections and evaluate the availability of potable water to residents and businesses. It is important that water supply management plans be consistent with comprehensive plans for areas served by public water systems. Water suppliers should be consulted as part of the permit process for new development regarding determinations of available water. Incentives for water conservation in new development should be encouraged.

Communities must assist and play a supportive role in responding to water emergencies within their geographic boundary; municipalities should be prepared to offer equipment, personnel, and other resources if feasible. In the case of a disaster declaration, which requires the exhaustion of resources on a local level, the municipality must have knowledge of what they have to offer both financially and physically so that they can promptly realize what situations are beyond their response capability and may therefore require state assistance.

2. Emergency Operations Plan (EOP)

Each municipality has an approved EOP cooperatively developed by the community and the state Emergency Management Agency (RIEMA). The EOP provides a framework in which elected officials, department heads, and emergency services personnel plan and perform emergency functions during a disaster or national emergency.

Annex H, Emergency Resources, of the EOP should be expanded to address water emergencies. It should include a list of resource personnel, equipment, and supplies available for use in water emergencies. Each municipality should conduct an inventory and maintain a list of available water supplies, including regional stockpiles, that are available for use in emergency situations. This refers only to those supplies not presently utilized and may include surface, groundwater, and bottled water resources.

3. Stand-by Contract

Municipal water suppliers should consider maintaining stand-by contracts for purchasing water through emergency interconnections and purchasing potable water at competitive prices when either are needed in large volume.

C. FINANCING FUTURE EMERGENCIES

The state should identify sources of financial assistance for water emergencies, such as the Water Facilities Assistance Fund, the Water Development Fund, the Water and Sewer Failure Fund, and any future revolving loan programs.

D. THE CONTINUING ROLE OF THE ADVISORY COMMITTEE

The state's largest water suppliers are preparing management plans for their water systems. Emergency aspects of these plans may require further discussion and coordination with state agencies, and the Advisory Committee could provide this forum. This plan establishes methods for all stages of the most probable emergency situations, but it does not address the worst-case scenario where the state loses its major supplies. For example, the possibility, albeit low probability, that the Scituate Reservoir becomes contaminated and unusable is of statewide concern. As this would affect approximately 60 percent of the state's population it would be impossible to bring in emergency generators or tap other supply sources, as they do not exist with adequate volume.

If assigned a continuing role by the Governor, the Advisory Committee could address such issues as:

- problem-solving analysis for emergencies of larger dimensions, including plan development and discussions of emergency scenarios that are least likely to occur,
- alternative solutions to increasing problems associated with small system viability, and
- drought planning.

The Committee should also be given the opportunity to comment and make recommendations on proposed legislation related to state water policy.

Consideration should be given to expansion of the Advisory Committee to include appropriate representation when issues are of broader public interest. The responsibility to provide adequate administrative staff should be shared by participating state agencies.